

Claims:

1. Modified factor VIII cDNA, **characterized** in that in positions where introns 1 and 13 in the genomic factor VIII sequence are inserted, the cDNA of factor VIII also contains one or more spliceable nucleotide sequences or a nucleotide sequence which will be spliced during the export of the pre-mRNA from the nucleus and in addition another spliceable nucleotide sequence which is inserted downstream of the promotor sequence and upstream of the modified factor VIII cDNA
2. Modified factor VIII cDNA as claimed in claim 1, **characterized** in that in intron positions 1 and/or 13 of the genomic factor VIII sequence one or more complete or truncated introns have been inserted.
3. Modified factor VIII cDNA as claimed in claim 1, **characterized** in that in intron positions 1 and/or 13 of the genomic factor VIII sequence one or more natural occurring or synthetic nucleic acid sequences, which retain the ability to be spliced have been inserted.
4. Modified factor VIII cDNA as claimed in claim 1, **characterized** in that in intron positions 1 and 13 of the genomic factor VIII sequence a truncated FIX intron I has been inserted.
5. Modified factor VIII cDNA as claimed in claim 1, **characterized** in that downstream of the promotor and upstream of the FVIII coding sequence one complete or truncated intron has been inserted.

6. Modified factor VIII cDNA as claimed in claim 1, **characterized** in that downstream of the promotor and upstream of the FVIII coding sequence one natural occurring or synthetic nucleic acid sequences which retain the ability to be spliced have been inserted.
7. Modified factor VIII cDNA as claimed in claim 1, **characterized** in that downstream of the promotor and upstream of the FVIII coding sequence a β -globin intron 2 has been inserted.
8. Modified factor VIII cDNA as claimed in claims 1 or 4, **characterized** in that it comprises a first DNA segment coding for the amino acids 1 through 740 of the human factor VIII and a second DNA segment coding for the amino acids 1649 through 2332 of the human factor VIII, said segments being interconnected by a linker DNA segment coding for a linker peptide of at least two amino acids which are selected from lysine and arginine.
9. Recombinant expression vector containing a transcription unit comprising the modified factor VIII cDNA sequence according to claims 1 to 5, a transcriptional promoter and a polyadenylation sequence.
10. A host cell line of animal origin transformed with the recombinant expression vector of claim 9.
11. Process for the production of a biologically active recombinant human factor VIII or its derivative, **characterized** in that the production is performed by cultivating the animal cell line of claim 10 in a nutrient medium allowing expression and secretion of the human factor VIII or its derivative and recovering said expression product from the culture medium.

12. The human factor VIII or its derivative whenever prepared by the process of claim 11.
13. Pharmaceutical composition containing factor VIII as described in claim 12.
14. Transfer vector for use in the human gene therapy, **characterized in that it comprises a modified factor VIII cDNA as claimed in claims 1 to 5.**
15. A host cell according to claim 10, characterized in that it is a human cell.
16. A host cell according to claim 15, characterized in that the cell is in a human body.